

AMENDMENTS

In the Claims:

Please **AMEND** claims 1-3, 5, 7-15, and 25.

1. (Currently Amended) A liquid crystal display, comprising:

~~a liquid crystal panel including a plurality of gate lines, a plurality of data lines, a plurality of liquid crystal capacitors, a plurality of thin film transistors connected to the liquid crystal capacitors, the gate lines and the data lines, and a plurality of storage capacitors, each storage capacitor connected between one of the liquid crystal capacitors and a previous gate line;~~

a timing controller receiving image signals and synchronization signals, and generating control signals;

a gate driver sequentially applying a stepped-wave pattern gate voltage to a plurality of the gate lines, the stepped-wave pattern gate voltage including a reset first interval for converting a grayscale level of a first liquid crystal capacitor connected to a subsequent gate line through a first thin film transistor to a first extreme grayscale level, a gate-on second interval for forming a ~~path through which a data voltage of a second grayscale level is transmitted to a second liquid crystal capacitor connected to a present gate line through a second thin film transistor by turning on the second thin film transistor, and an overshoot third interval following the~~ gate-on second interval and having the ~~same~~ polarity as a polarity of a the data voltage; and

a data driver for applying the data voltage to the second liquid crystal capacitor of the liquid

crystal panel according to the control signals of the timing controller.

2. (Currently Amended) The liquid crystal display of claim 1, wherein the first extreme grayscale level is a black grayscale level when in a normally white mode.

3. (Currently Amended) The liquid crystal display of claim 1, wherein the first extreme grayscale level is a white grayscale level when in a normally black mode.

4. (Cancelled)

5. (Currently Amended) A drive method for a liquid crystal display, ~~the liquid crystal display including: a liquid crystal panel having a plurality of gate lines, a plurality of data lines, a plurality of liquid crystal capacitors, a plurality of thin film transistors connected to the liquid crystal capacitors, the gate lines, and the data lines, and a plurality of storage capacitors, each storage capacitor connected between one of the liquid crystal capacitors and a previous gate line; a gate driver for generating a signal supplied to gates of the thin film transistors; and a data driver for generating a data voltage supplied to the liquid crystal capacitors of the liquid crystal panel, the method comprising the steps of:~~

sequentially applying a stepped-wave pattern gate voltage to the gate lines, the stepped-wave pattern gate voltage including a reset first interval for converting a grayscale level of a first liquid crystal capacitor connected to a subsequent gate line through a first thin film transistor to a first extreme grayscale level, a gate-on second interval for forming a path through which a data voltage of a second grayscale level is transmitted to a second liquid crystal capacitor connected to

~~a present gate line through a second thin film transistor by turning on the second thin film transistor~~, and an overshoot third-interval following the ~~second~~-interval and having the same polarity of ~~a the~~ data voltage; and

applying the data voltage to the second liquid crystal capacitor of the liquid crystal panel.

6. (Cancelled)

7. (Currently Amended) The method of claim 6, wherein the gate voltage in the reset first-interval is identical in polarity to a polarity of the gate voltage in the overshoot third-interval.

8. (Currently Amended) The method of claim 6, wherein the gate voltage in the reset first-interval is opposite in polarity to a polarity of the gate voltage in the overshoot third-interval.

9. (Currently Amended) The method of claim 6, wherein the gate voltage in the overshoot third-interval is $\pm 3V$ to $\pm 10V$ relative to a gate-off voltage.

10. (Currently Amended) The method of claim 6, wherein the overshoot third-interval starts at a point where the gate-on second-interval ends, and converts to a gate-off voltage at a position where the gate-on second-interval doubles.

11. (Currently Amended) The method of claim 5, wherein the first extreme grayscale level is a white grayscale level when in a normally black mode.

12. (Currently Amended) The method of claim 5, wherein the first extreme grayscale

level is a black grayscale level when in a normally white mode.

13. (Currently Amended) The method of claim 5, wherein the gate voltage in the reset ~~first~~-interval is $\pm 3\text{V}$ to $\pm 10\text{V}$ relative to a gate-off voltage.

14. (Currently Amended) The method of claim 5, wherein a starting point of the reset ~~first~~-interval is within about $0.5\text{ }\mu\text{s}$ to about $5\text{ }\mu\text{s}$ from a starting point of the gate-on ~~second~~ interval.

15. (Currently Amended) A liquid crystal display, comprising:

- first and second gate lines sequentially supplied with a gate signal;
- a data line for transmitting a first data voltage and a second data voltage;
- a first switching element connected to the first gate line and the data line and selectively transmitting the first data voltage;
- a second switching element connected to the second gate line and the data line and selectively transmitting the second data voltage;
- a first liquid crystal capacitor connected to the first switching element;
- a second liquid crystal capacitor connected to the second switching element;
- a storage capacitor connected between the second liquid crystal capacitor and the first gate line;
- a data driver applying the first and the second data voltages to the data line; and
- a gate driver sequentially applying the gate signal to the first and the second gate lines, wherein the gate signal has first, second, third, and ~~to~~-fourth voltages during sequentially arranged first, second, third, and ~~to~~-fourth time intervals, respectively.

16. (Previously Presented) The liquid crystal display of claim 15, wherein the first switching element and the second switching element turn on by the second voltage and turn off by the fourth voltage.

17. (Previously Presented) The liquid crystal display of claim 16, wherein the first liquid crystal capacitor and the second liquid crystal capacitor are supplied with a common voltage, the third voltage of the gate signal applied to the first gate line is higher than the fourth voltage when the first data voltage is higher than the common voltage, and the third voltage of the gate signal applied to the first gate line is lower than the fourth voltage when the first data voltage is lower than the common voltage.

18. (Previously Presented) The liquid crystal display of claim 17, wherein both the first and the third voltages are higher or lower than the fourth voltage.

19. (Previously Presented) The liquid crystal display of claim 18, wherein the liquid crystal display operates in normally white mode.

20. (Previously Presented) The liquid crystal display of claim 17, wherein one of the first and the third voltages is higher than the fourth voltage and the other of the first and the third voltages is lower than the fourth voltage.

21. (Previously Presented) The liquid crystal display of claim 20, wherein the liquid crystal display operates in normally black mode.

22. (Previously Presented) The liquid crystal display of claim 16, wherein both the first and the third voltages are higher or lower than the fourth voltage.

23. (Previously Presented) The liquid crystal display of claim 22, wherein the third voltage has a value between the first voltage and the fourth voltage.

24. (Previously Presented) The liquid crystal display of claim 16, wherein one of the first and the third voltages is higher than the fourth voltage and the other of the first and the third voltages is lower than the fourth voltage.

25. (Currently Amended) A liquid crystal display, comprising:

- first and second gate lines sequentially supplied with a gate signal;
- a data line transmitting a first data voltage and a second data voltage;
- a first switching element connected to the first gate line and the data line and selectively transmitting the first data voltage;
- a second switching element connected to the second gate line and the data line and selectively transmitting the second data voltage;
- a first liquid crystal capacitor connected between the first switching element and a common voltage;
- a second liquid crystal capacitor connected between the second switching element and the common voltage;
- a storage capacitor connected between the second liquid crystal capacitor and the first gate line;
- a data driver applying the first and the second data voltages to the data line; and
- a gate driver sequentially applying the gate signal to the first and the second gate lines,

wherein the gate signal has first, second, and third voltages during first, second, and third time intervals, respectively, and the first voltage turns on the first and the second switching elements ~~turn on by the first voltage and turn off by the second voltage~~ turns off the first and the second switching elements, the third interval precedes the first time interval, and a polarity of the

third voltage with respect to the second voltage is the same as a polarity of the data voltage with respect to the common voltage.

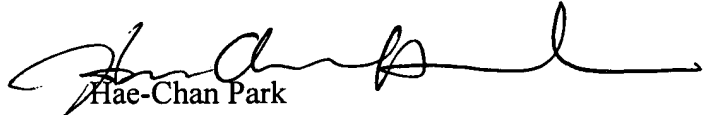
26. (Previously Presented) The liquid crystal display of claim 25, wherein the gate signal further has a fourth voltage, which has a polarity with respect to the second voltage equal to the polarity of the data voltage, during a fourth time interval following the first time interval.

Conclusion

By this preliminary amendment, claims 1-26 are pending. It is respectfully requested that this amendment be entered prior to the continued examination of the above-referenced patent application. It is believed that no new matter is added by this amendment. If the Examiner desires any additional information, the Examiner is invited to contact applicants' attorney at the telephone number listed below to expedite prosecution.

Prompt and favorable consideration is respectfully requested.

Respectfully submitted,


Hae-Chan Park
Reg. No. 50,114

Date: January 7, 2005

McGUIRE WOODS LLP
1750 Tysons Boulevard
Suite 1800
McLean, VA 22102-4215
Telephone No. (703) 712-5365
Facsimile No. (703) 712-5280